FIG. 1

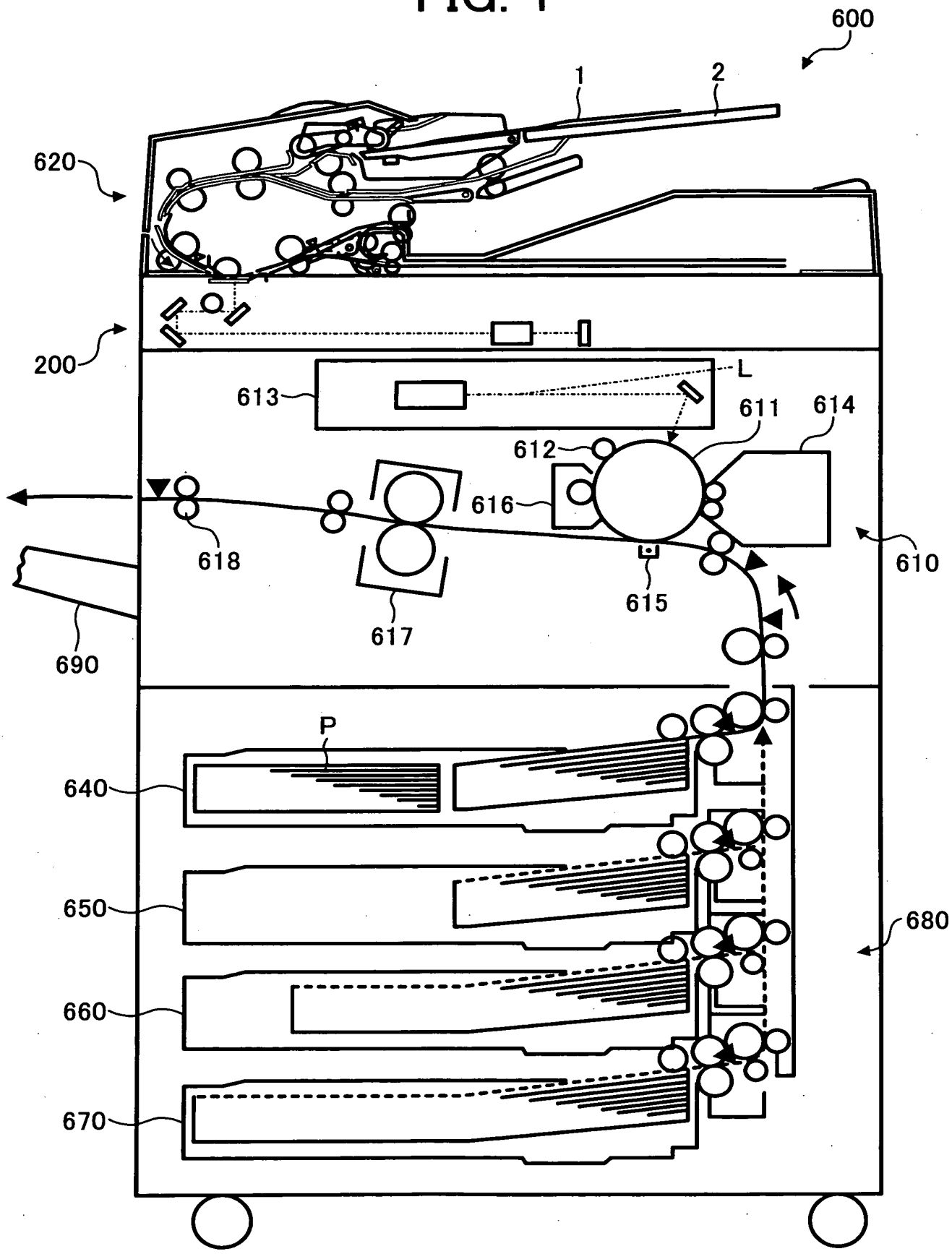
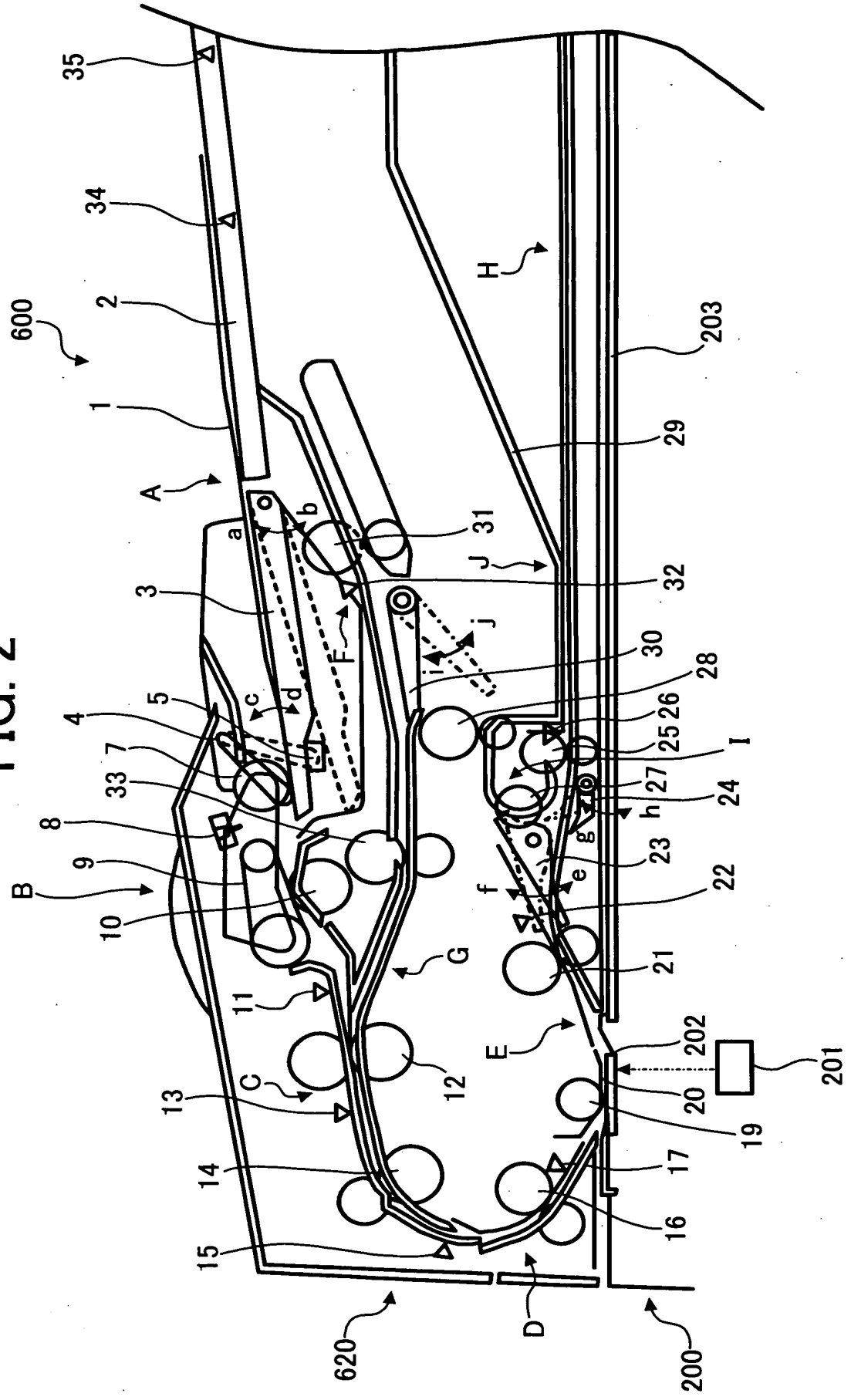

600
1
2
620
200
L
613
611
614
612
616
618
610
615
617
690
P
640
650
680
660
670

FIG. 2


35
34
2
600
1
A
3
33
7
4
5
8
9
B
10
11
13
C
14
15
620
12
G
F
H
203
29
31
J
32
30
28
26
25
I
27
24
h
g
23
f
e
22
21
E
202
201
20
19
17
16
D
200

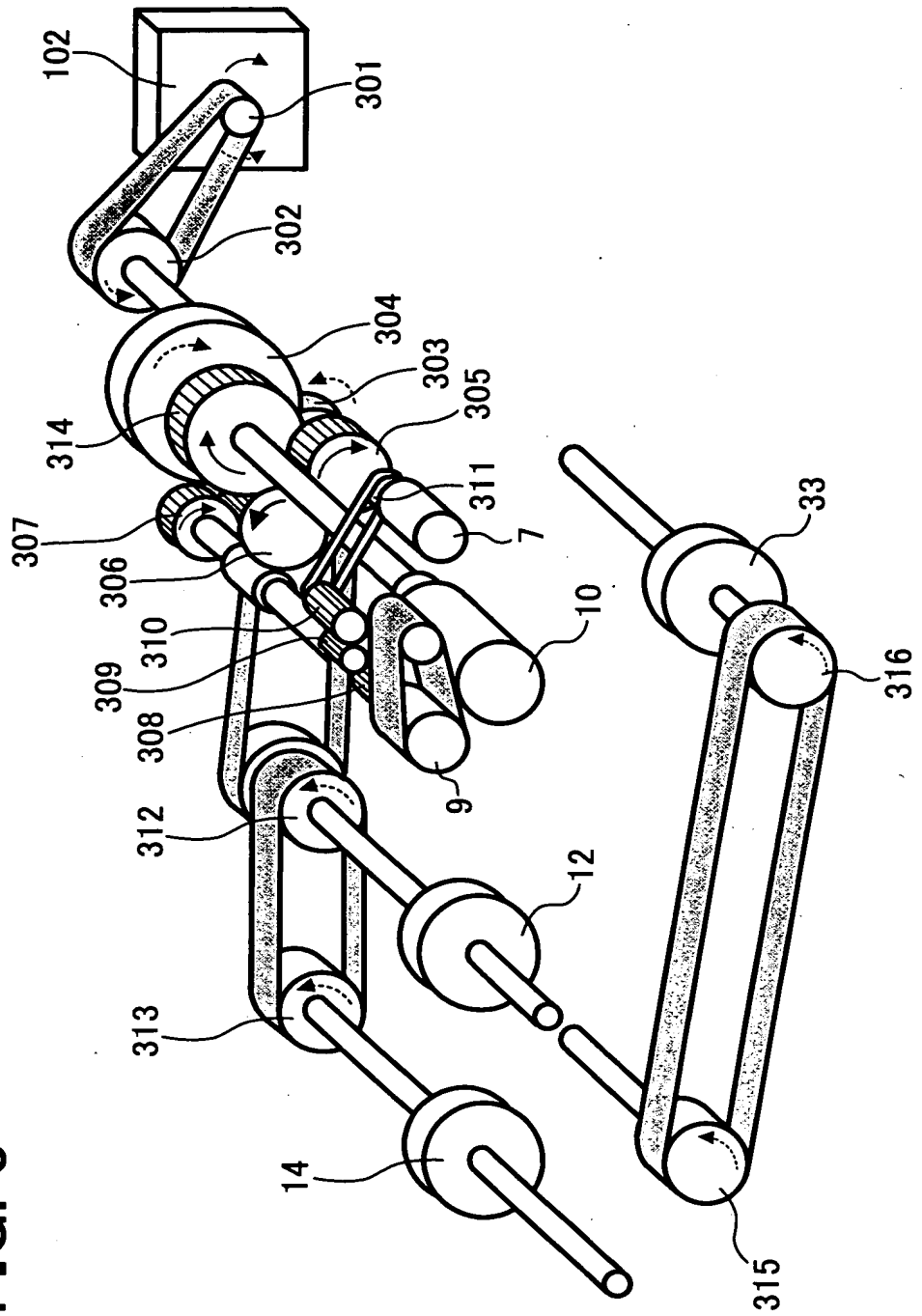

102
301
302
304
303
305
314
311
307
7
306
10
310
309
308
9
312
12
313
14
33
316
315

FIG. 3

FIG. 4

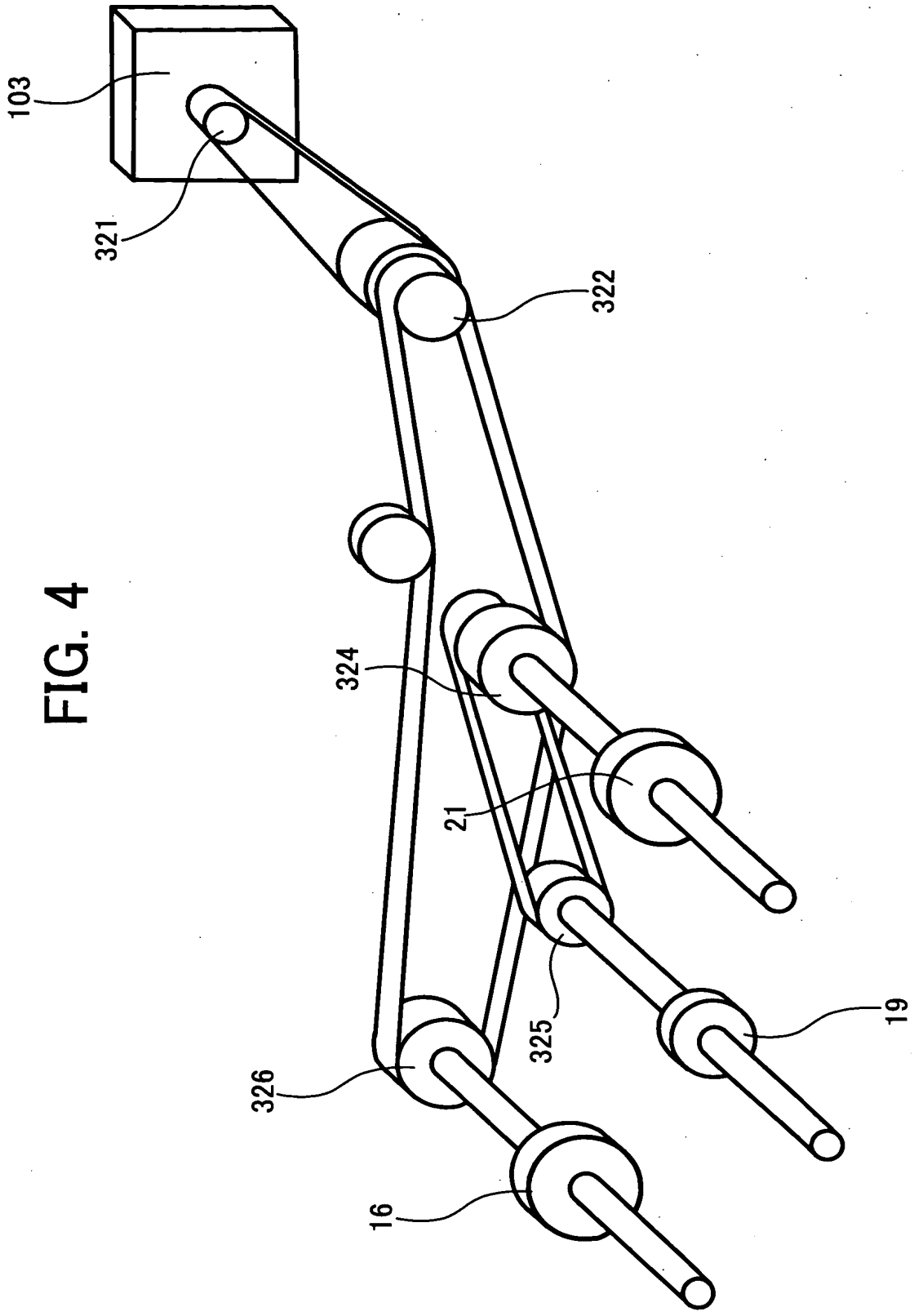


FIG. 5

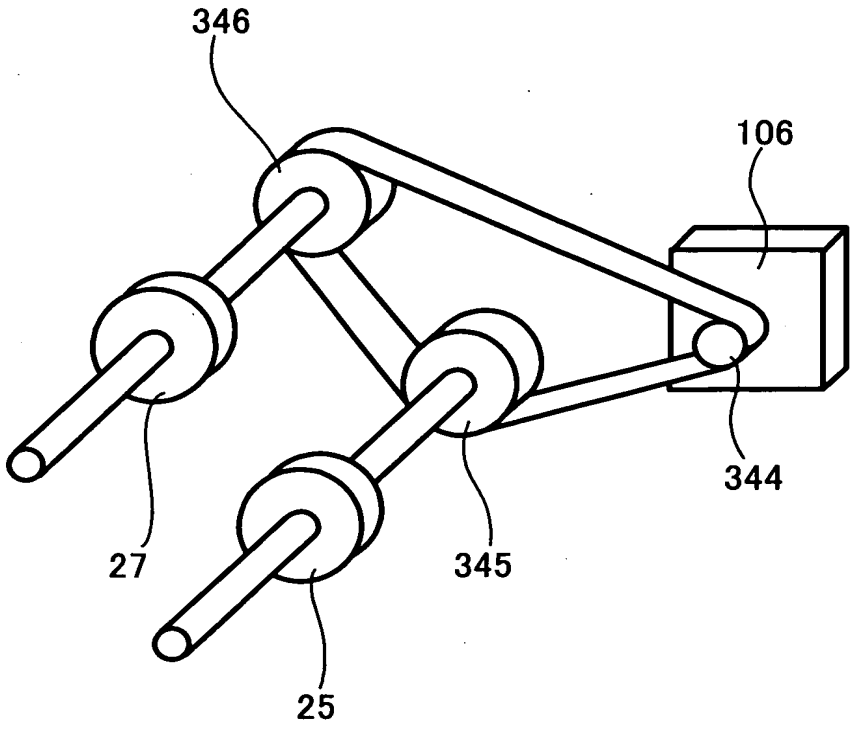


FIG. 6

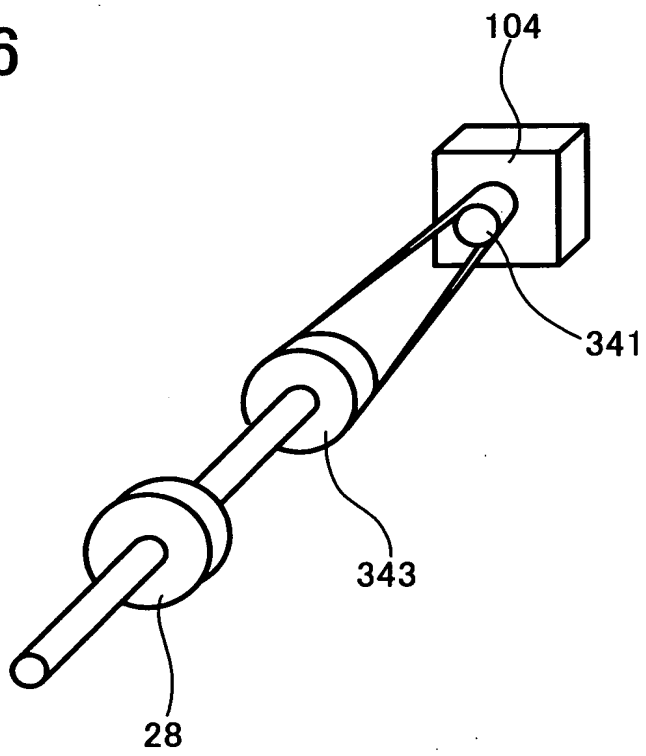


FIG. 7

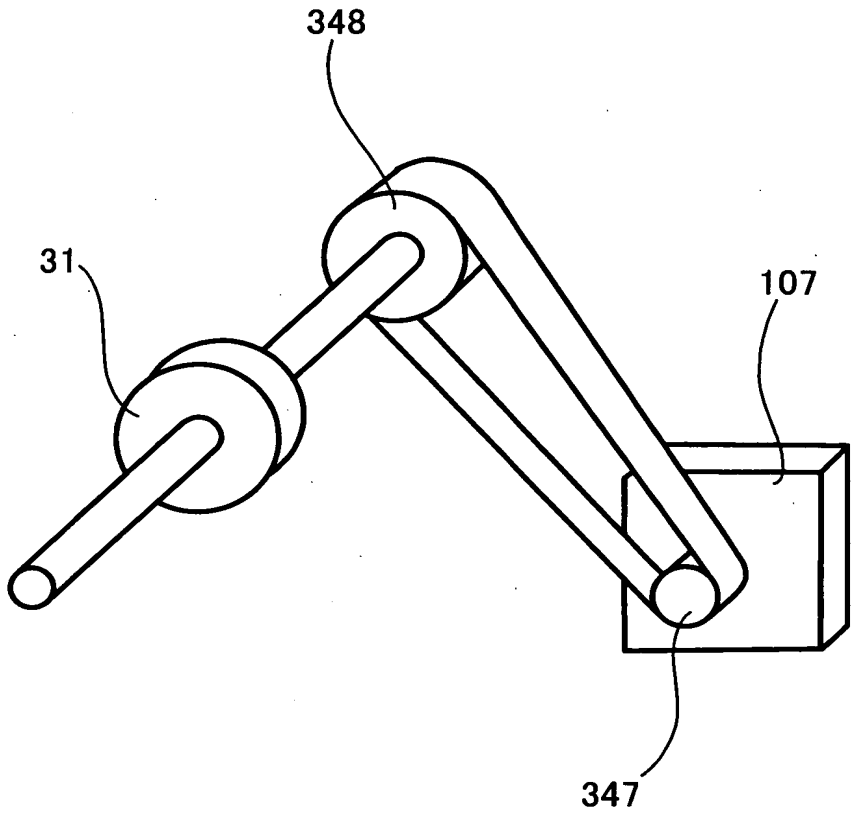


FIG. 8

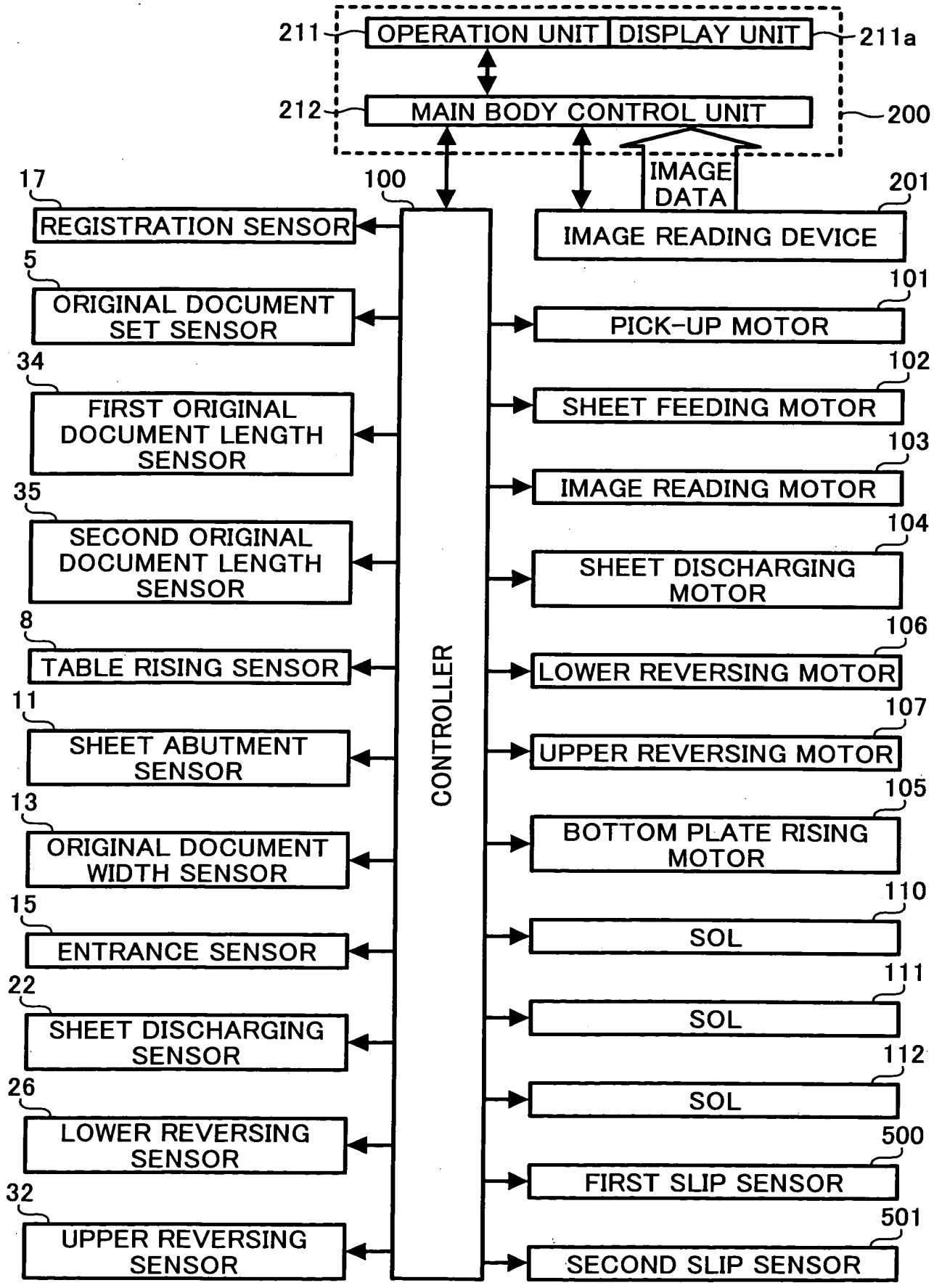

211
OPERATION UNIT
DISPLAY UNIT
211a
212
MAIN BODY CONTROL UNIT
200
IMAGE DATA
17
REGISTRATION SENSOR
100
201
IMAGE READING DEVICE
5
ORIGINAL DOCUMENT SET SENSOR
101
PICK-UP MOTOR
34
FIRST ORIGINAL DOCUMENT LENGTH SENSOR
102
SHEET FEEDING MOTOR
103
IMAGE READING MOTOR
35
SECOND ORIGINAL DOCUMENT LENGTH SENSOR
104
SHEET DISCHARGING MOTOR
8
TABLE RISING SENSOR
106
LOWER REVERSING MOTOR
11
SHEET ABUTMENT SENSOR
107
UPPER REVERSING MOTOR
13
ORIGINAL DOCUMENT WIDTH SENSOR
105
BOTTOM PLATE RISING MOTOR
15
ENTRANCE SENSOR
110
SOL
22
SHEET DISCHARGING SENSOR
111
SOL
26
LOWER REVERSING SENSOR
112
SOL
32
UPPER REVERSING SENSOR
500
FIRST SLIP SENSOR
501
SECOND SLIP SENSOR
CONTROLLER

FIG. 9A

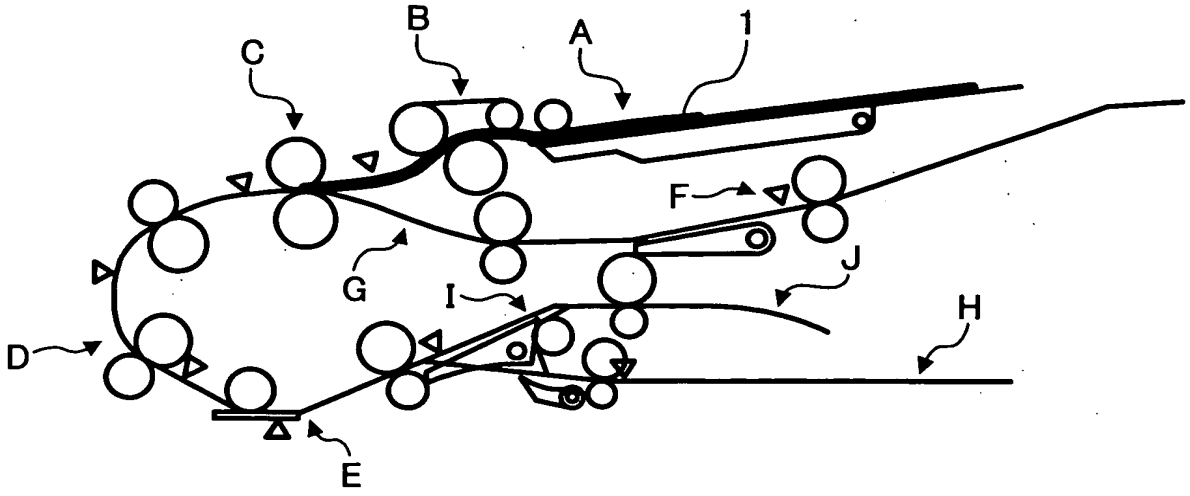


FIG. 9B

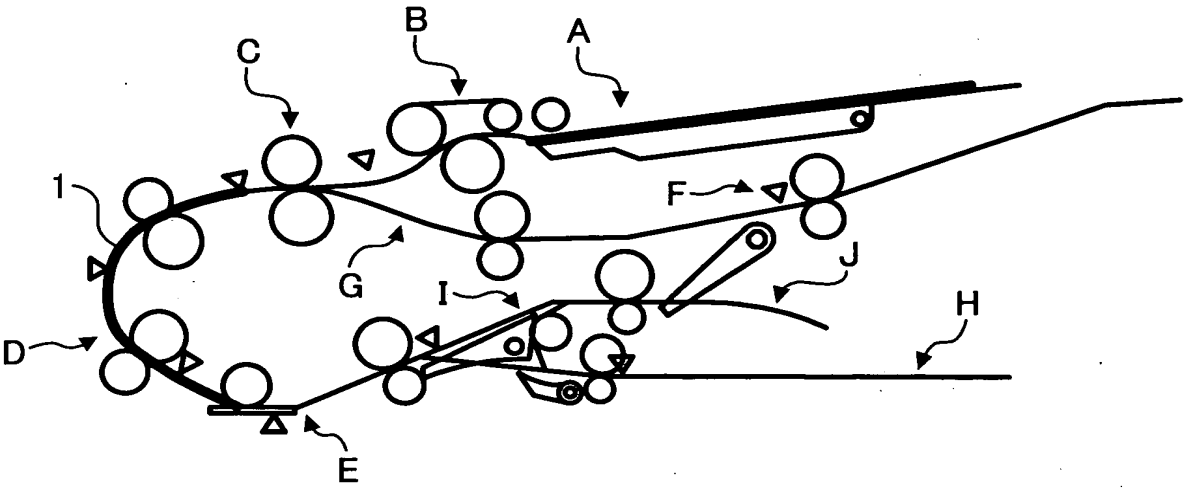


FIG. 9C

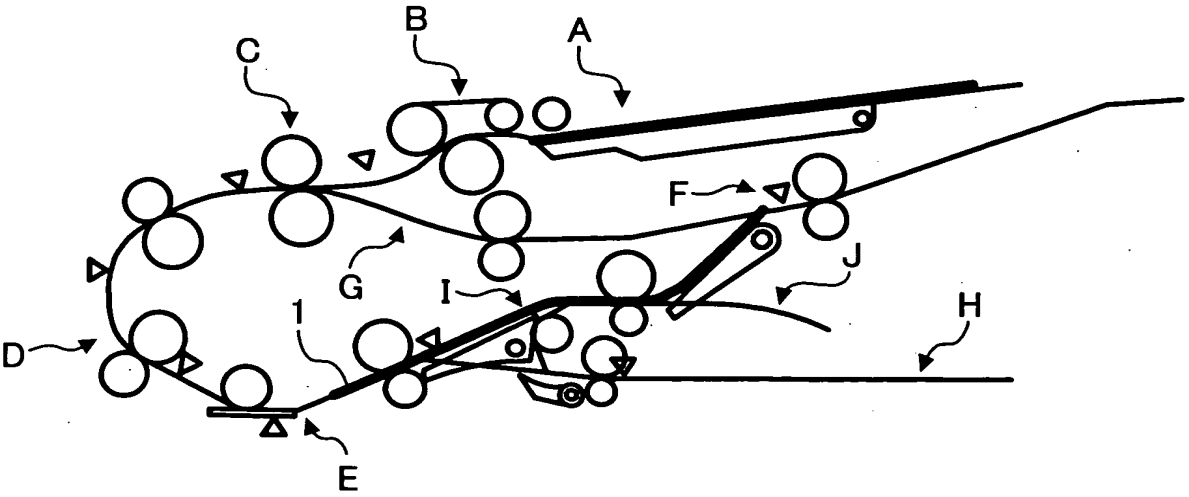


FIG. 9D

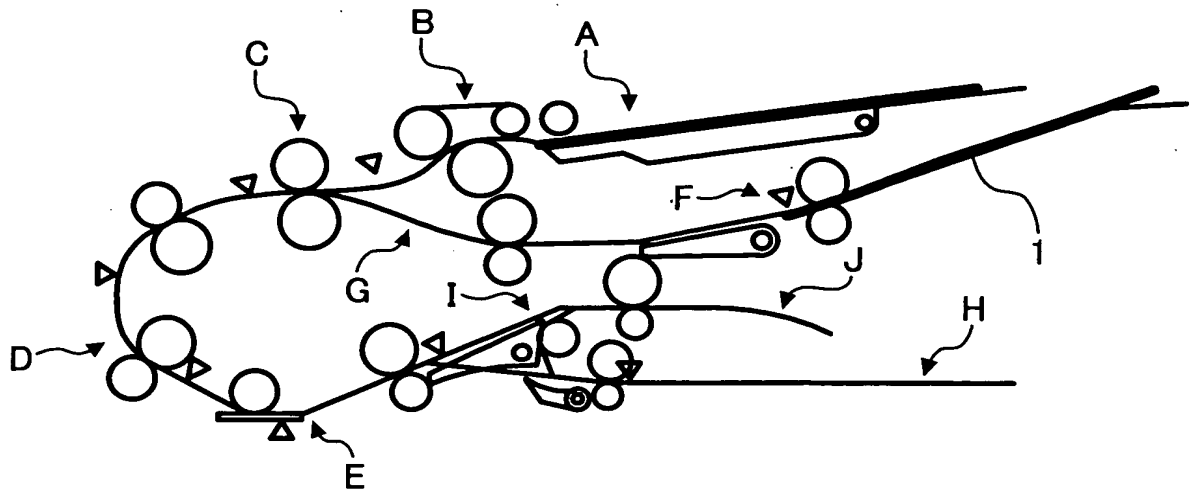


FIG. 9E

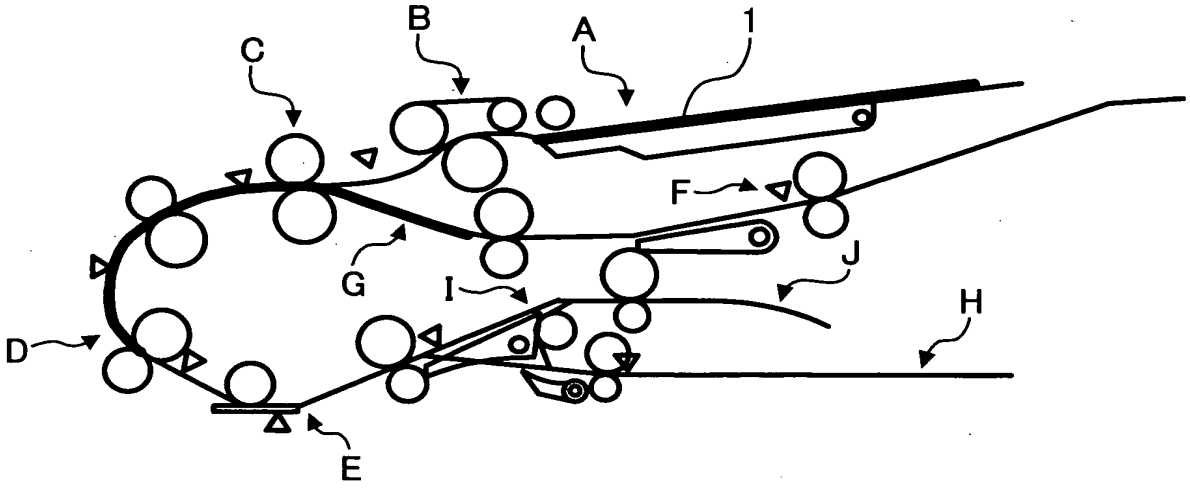


FIG. 9F

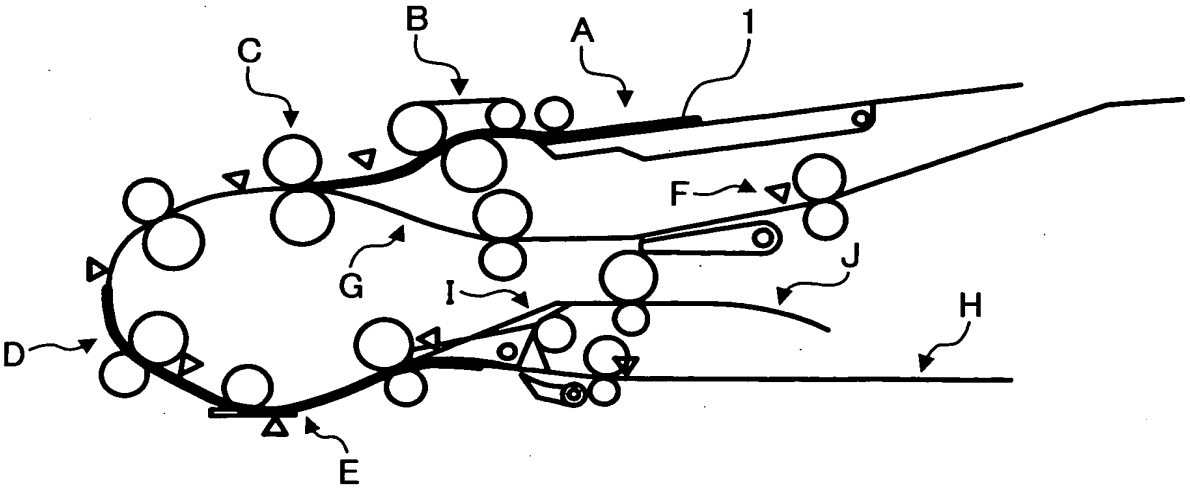


FIG. 9G

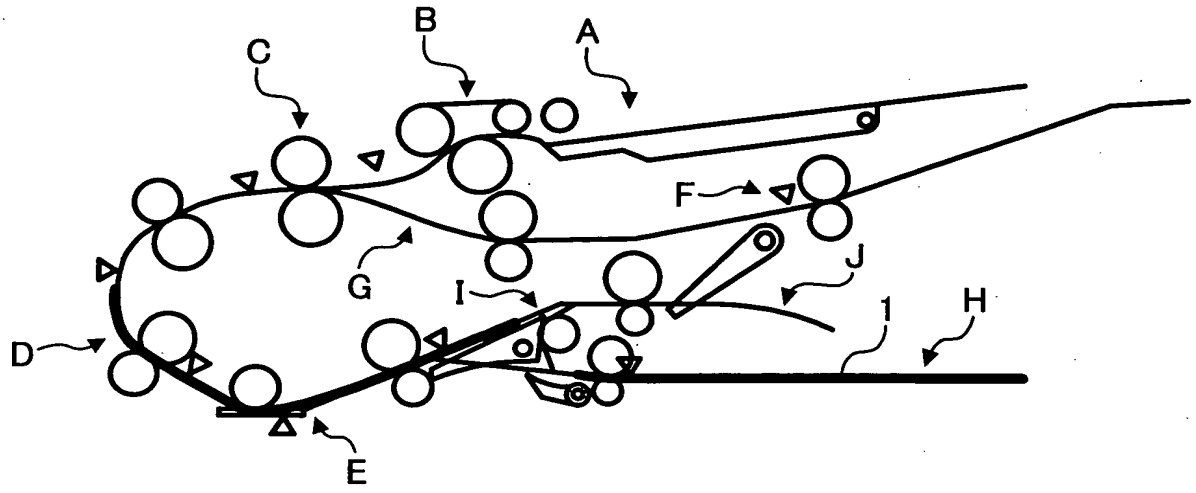


FIG. 9H

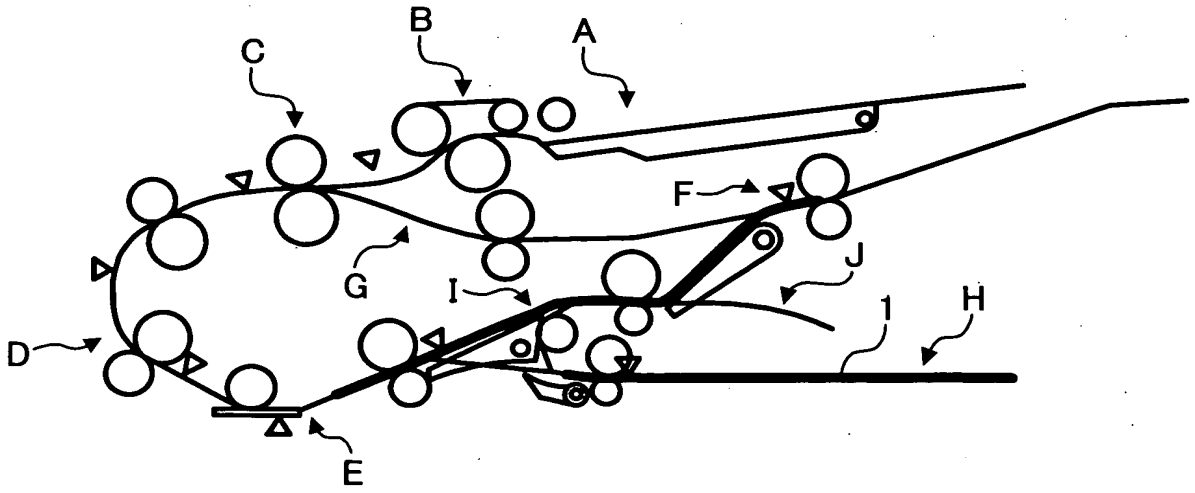


FIG. 9I

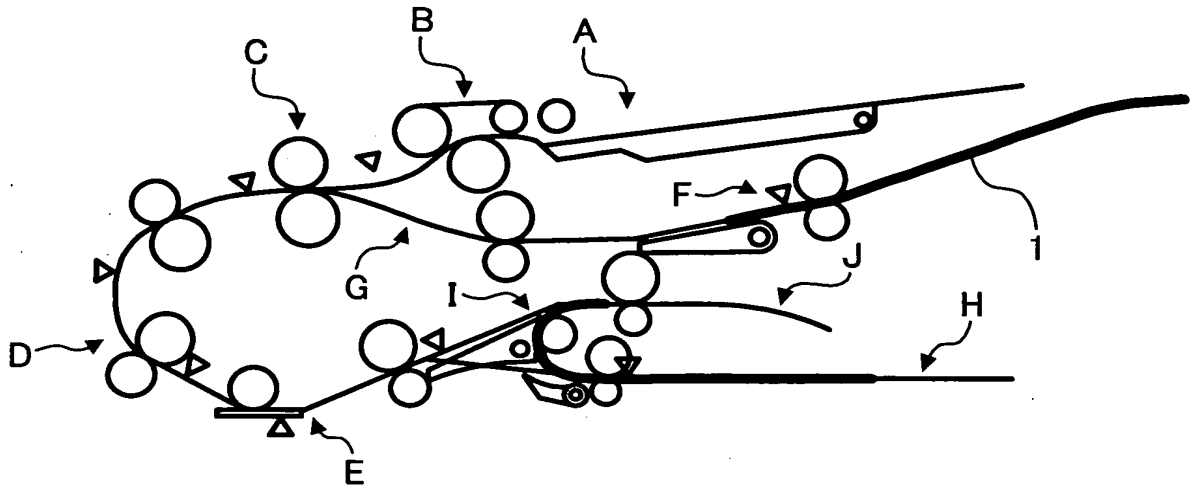


FIG. 9J

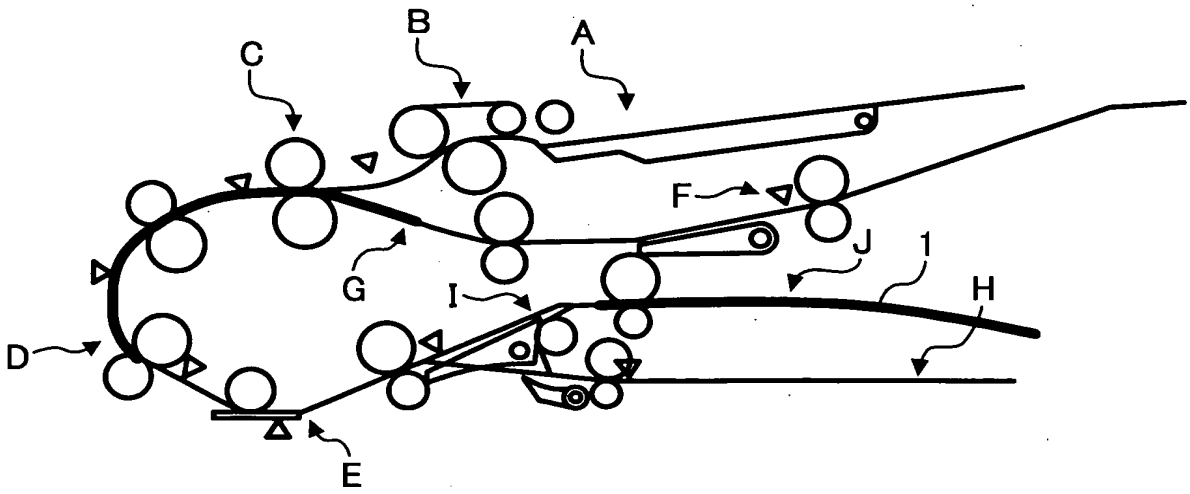


FIG. 10

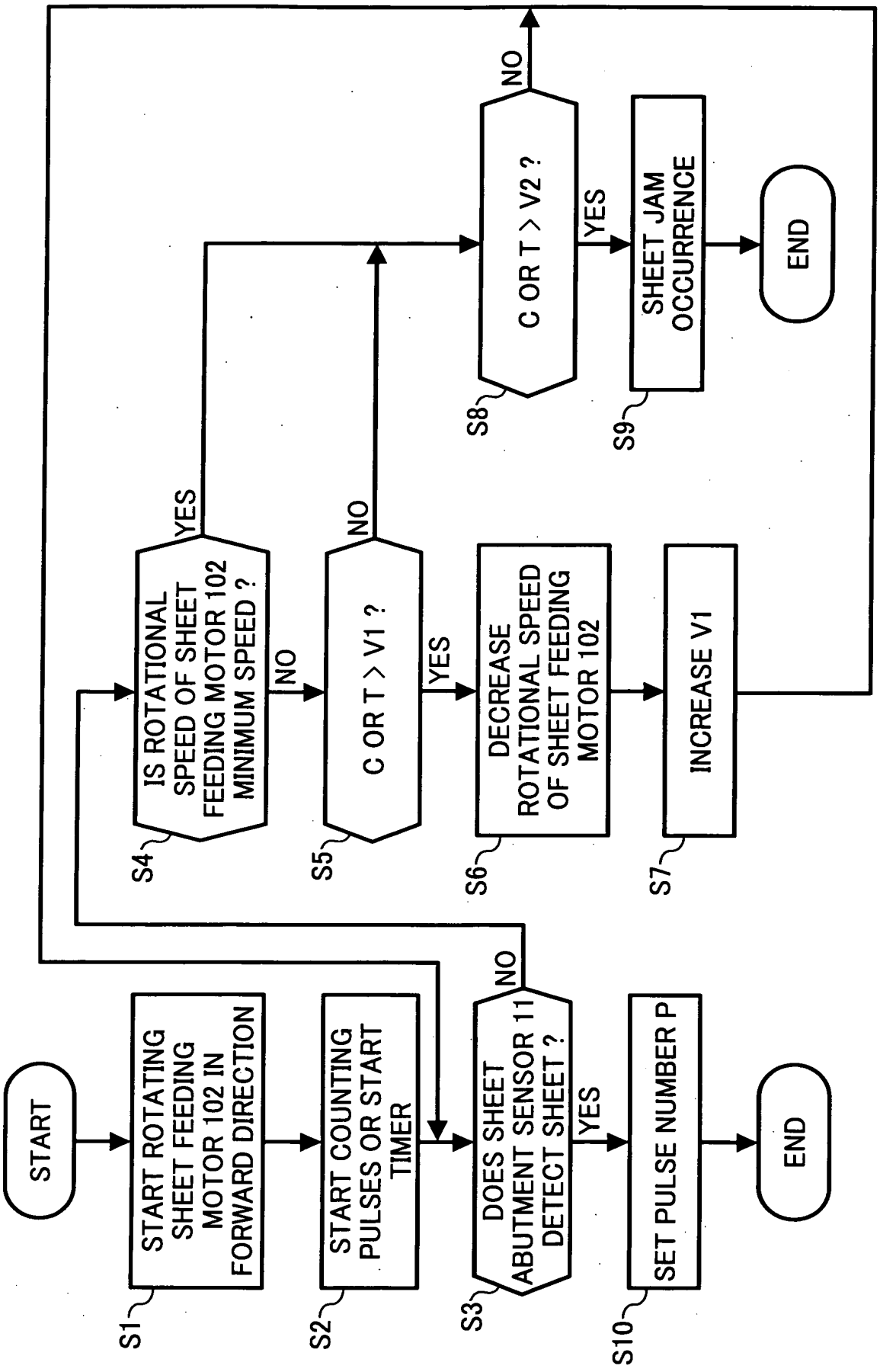

START
START ROTATING SHEET FEEDING MOTOR 102 IN FORWARD DIRECTION
START COUNTING PULSES OR START TIMER
DOES SHEET ABUTMENT SENSOR 11 DETECT SHEET ?
NO
YES
SET PULSE NUMBER P
END
S1
S2
S3
S10
IS ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102 MINIMUM SPEED ?
YES
NO
C OR T > V1 ?
NO
YES
DECREASE ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102
INCREASE V1
S4
S5
S6
S7
C OR T > V2 ?
NO
YES
SHEET JAM OCCURRENCE
END
S8
S9

FIG. 11A

FIG. 11

FIG. 11A
FIG. 11B

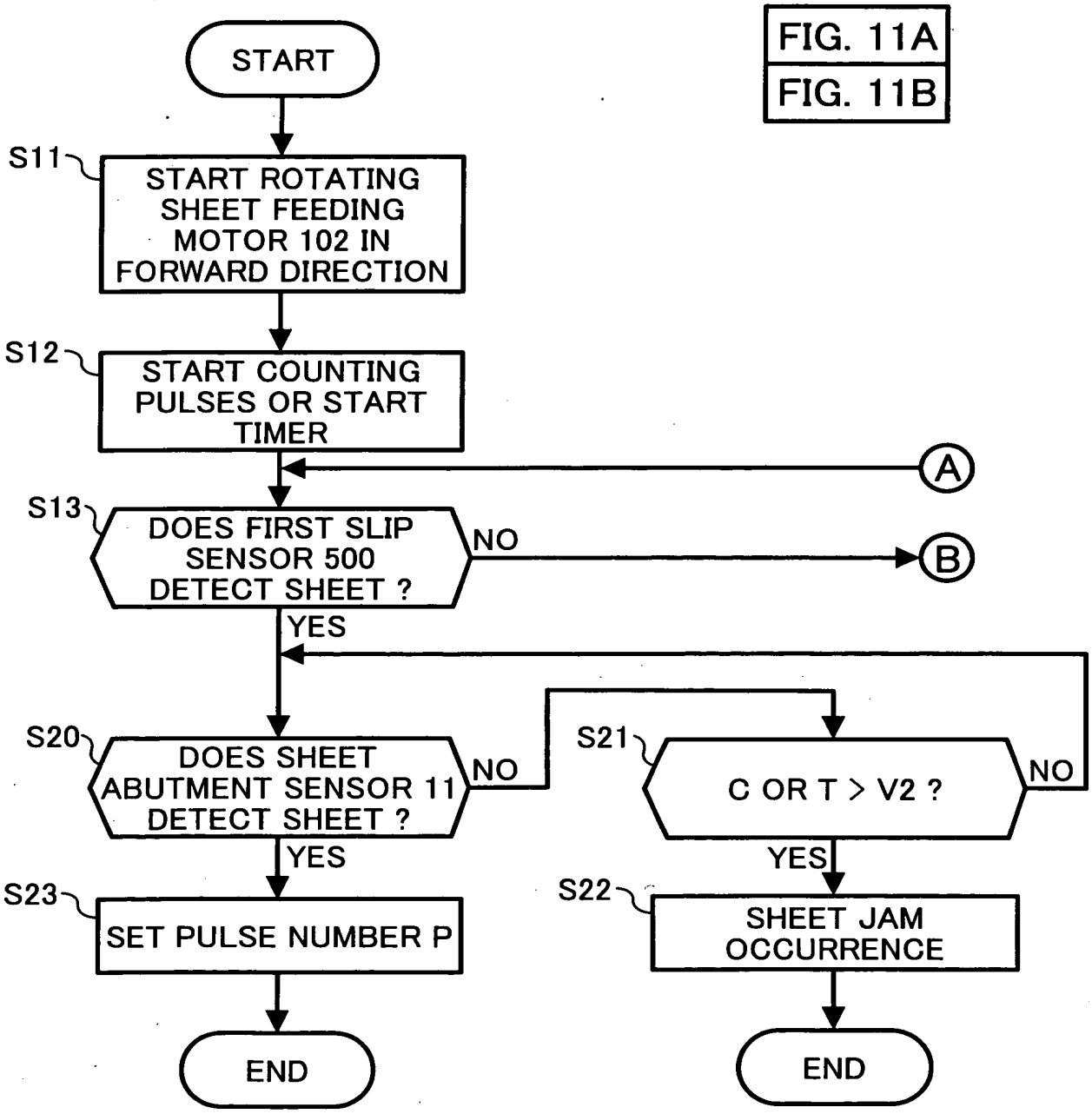


FIG. 11B

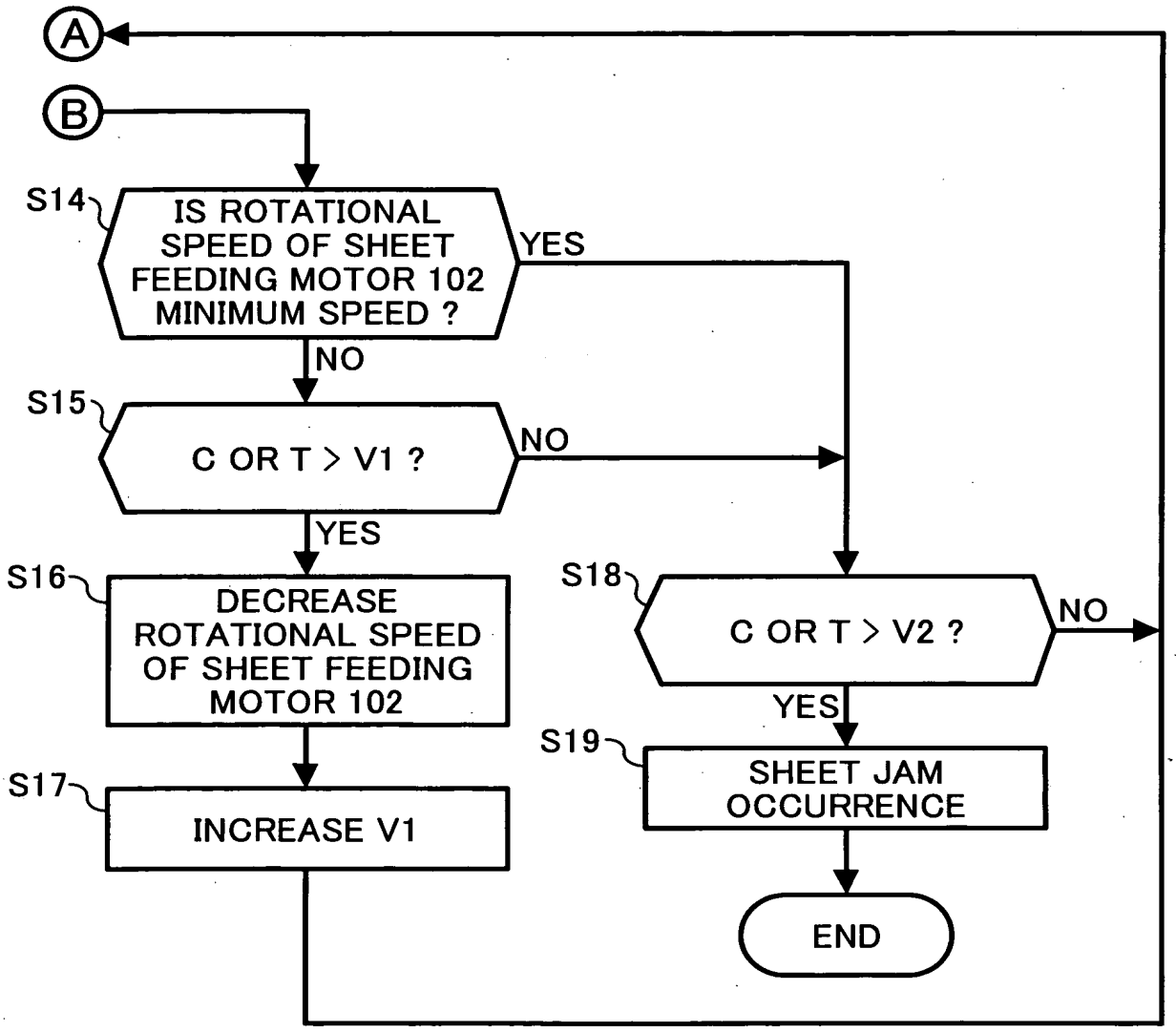

A
B
S14
IS ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102 MINIMUM SPEED ?
YES
NO
S15
C OR T > V1 ?
NO
YES
S16
DECREASE ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102
S17
INCREASE V1
S18
C OR T > V2 ?
NO
YES
S19
SHEET JAM OCCURRENCE
END

FIG. 12

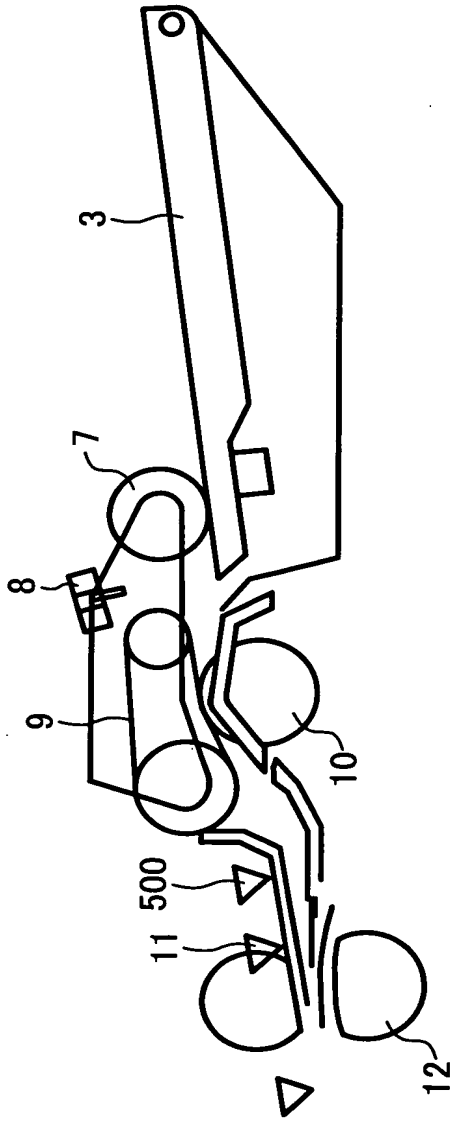


FIG. 13A

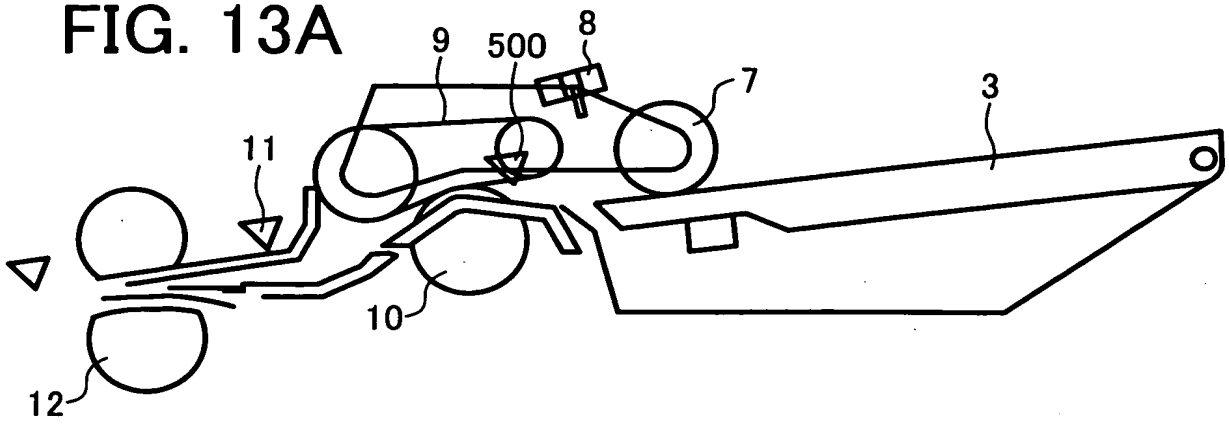


FIG. 13B

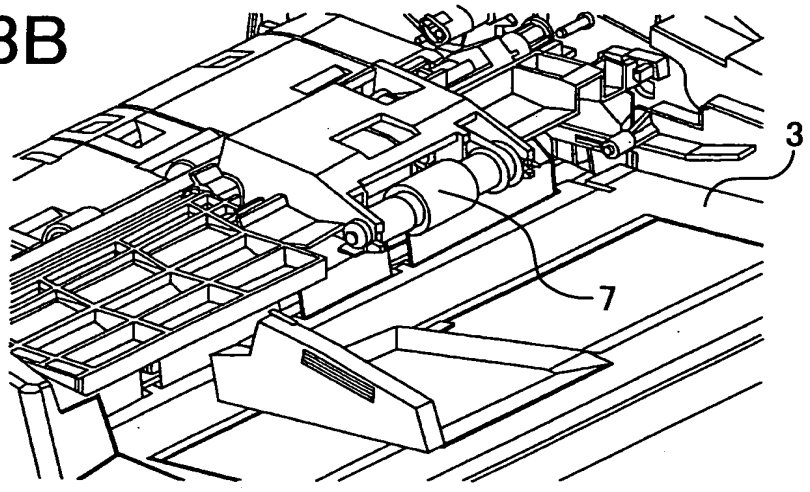


FIG. 13C

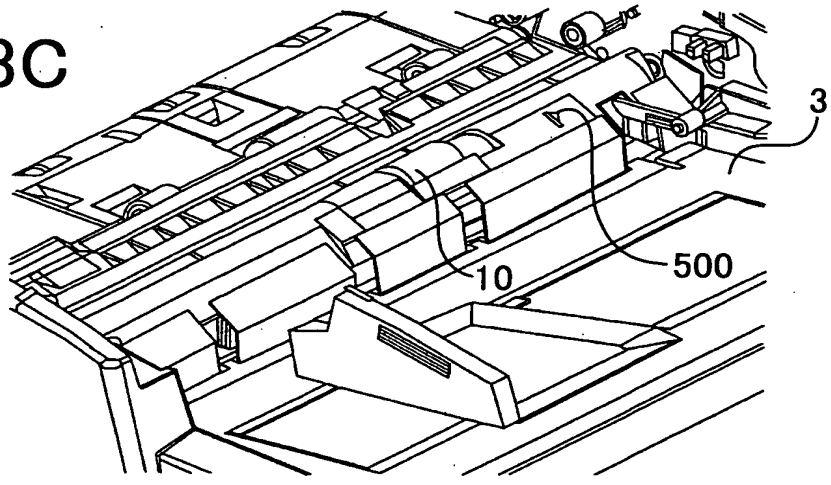


FIG. 14

FIG. 14A
FIG. 14B
FIG. 14C

FIG. 14A

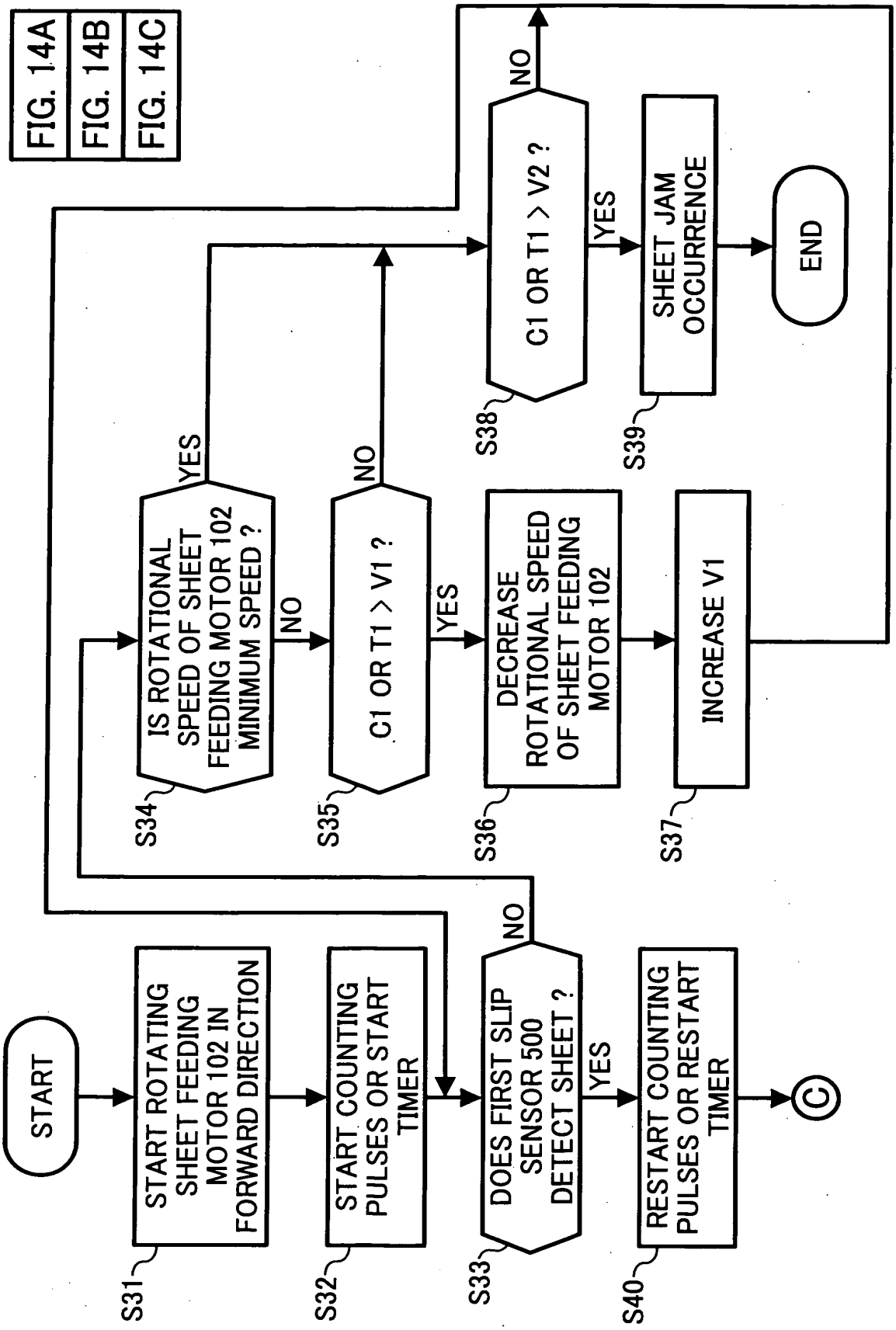


FIG. 14B

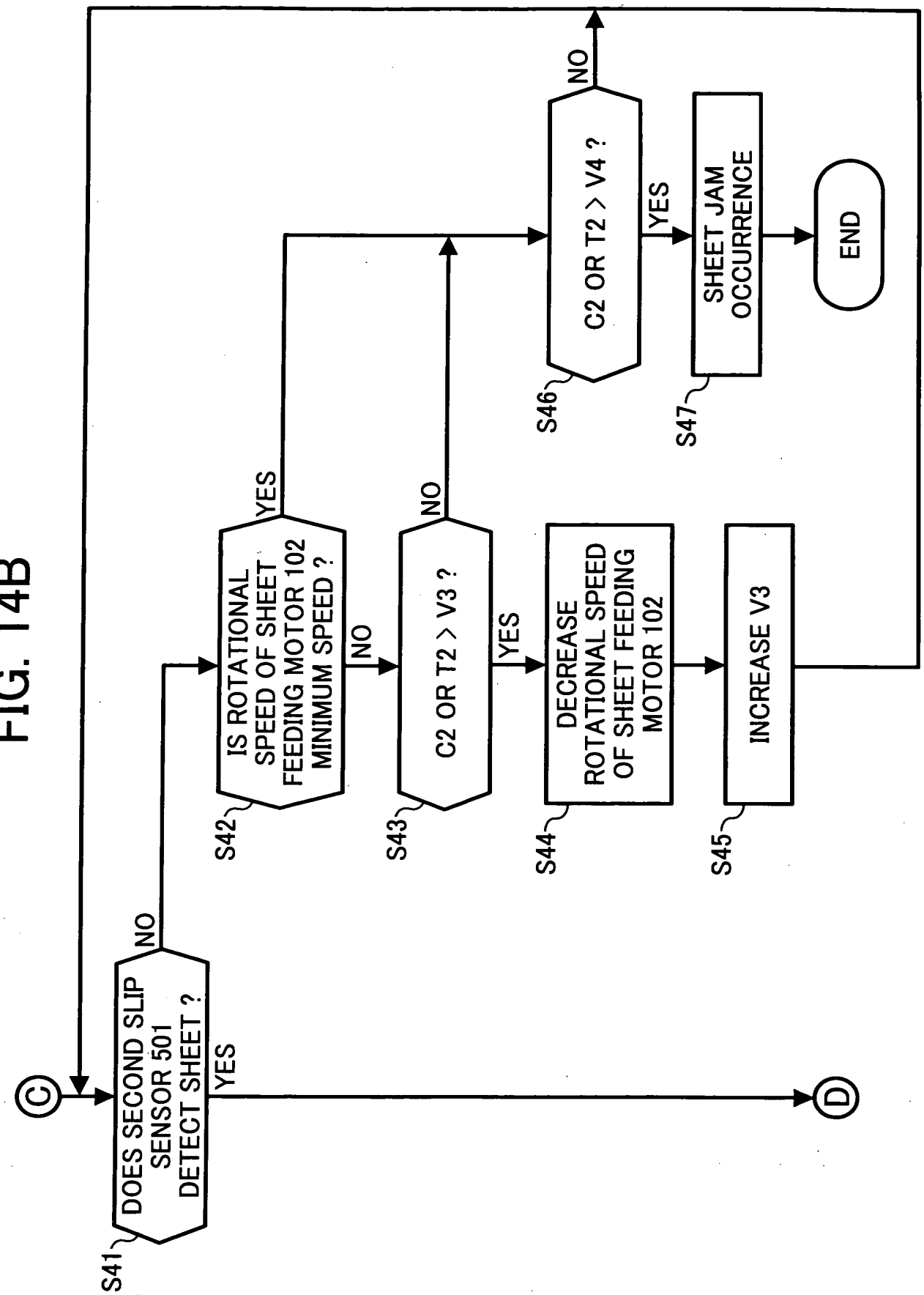

C
DOES SECOND SLIP SENSOR 501 DETECT SHEET ?
S41
NO
YES
D
IS ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102 MINIMUM SPEED ?
S42
NO
YES
C2 OR T2 > V3 ?
S43
NO
YES
DECREASE ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102
S44
INCREASE V3
S45
C2 OR T2 > V4 ?
S46
NO
YES
SHEET JAM OCCURRENCE
S47
END

FIG. 14C

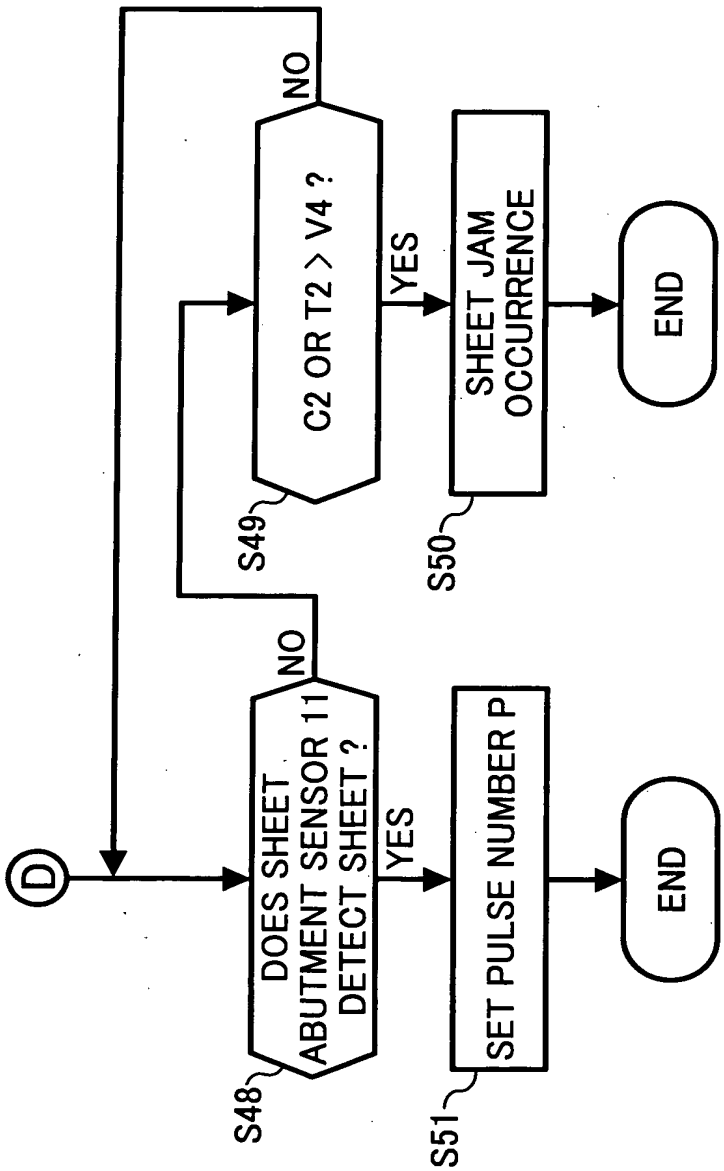

D
DOES SHEET ABUTMENT SENSOR 11 DETECT SHEET ?
S48
NO
YES
C2 OR T2 > V4 ?
S49
NO
YES
SET PULSE NUMBER P
S51
SHEET JAM OCCURRENCE
S50
END
END

FIG. 15

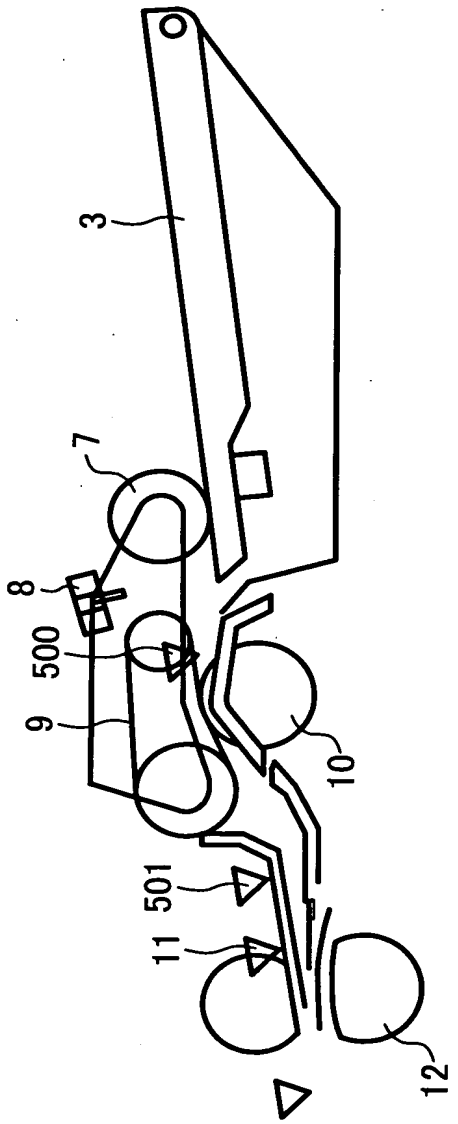


FIG. 16

FIG. 16A
FIG. 16B

FIG. 16A

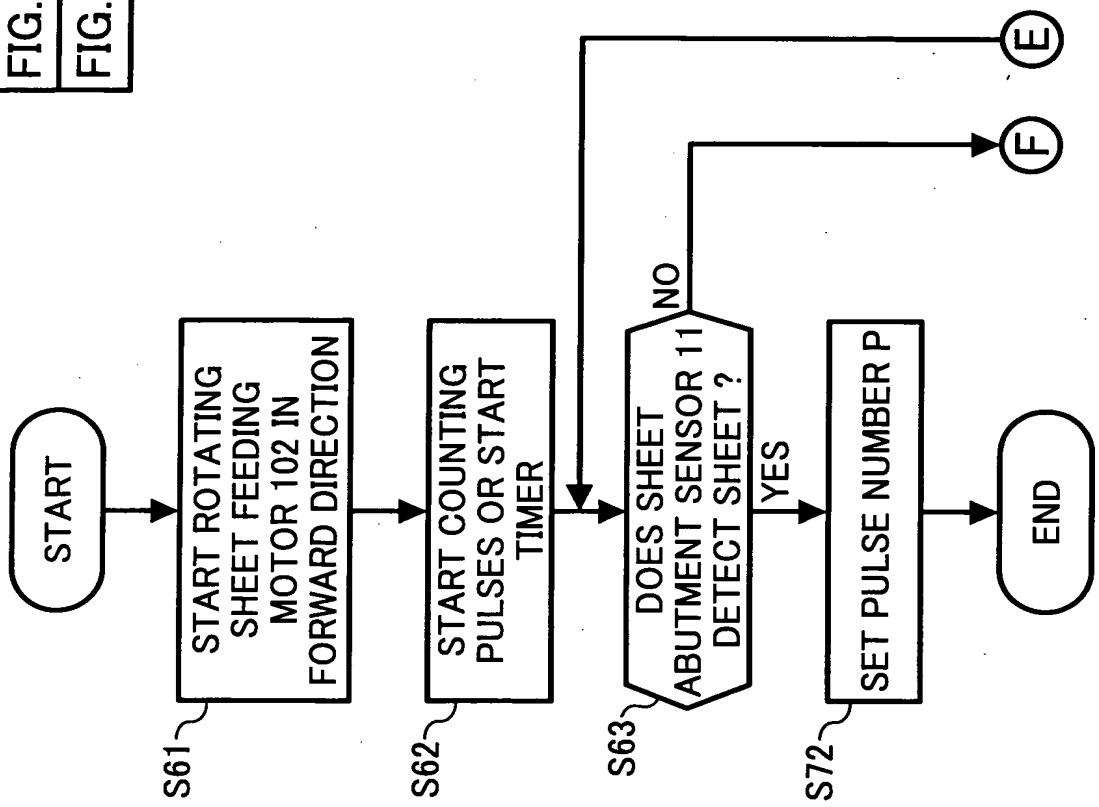


FIG. 16B

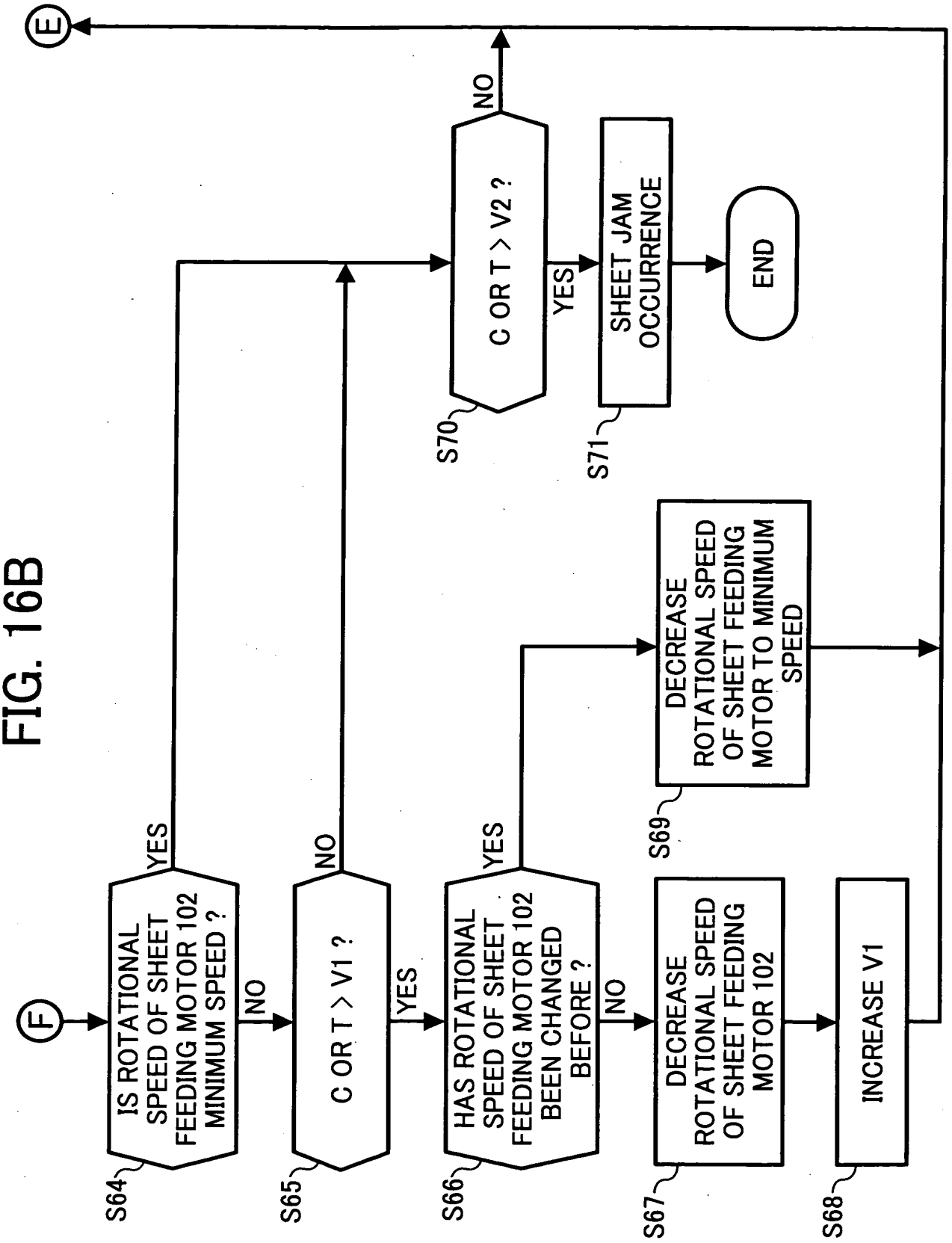

F
IS ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102 MINIMUM SPEED ?
S64
YES
NO
C OR T > V1 ?
S65
NO
YES
HAS ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102 BEEN CHANGED BEFORE ?
S66
YES
NO
DECREASE ROTATIONAL SPEED OF SHEET FEEDING MOTOR TO MINIMUM SPEED
S69
DECREASE ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102
S67
INCREASE V1
S68
C OR T > V2 ?
S70
NO
YES
SHEET JAM OCCURRENCE
S71
END
E

FIG. 17

FIG. 17A	FIG. 17B	FIG. 17C

FIG. 17A

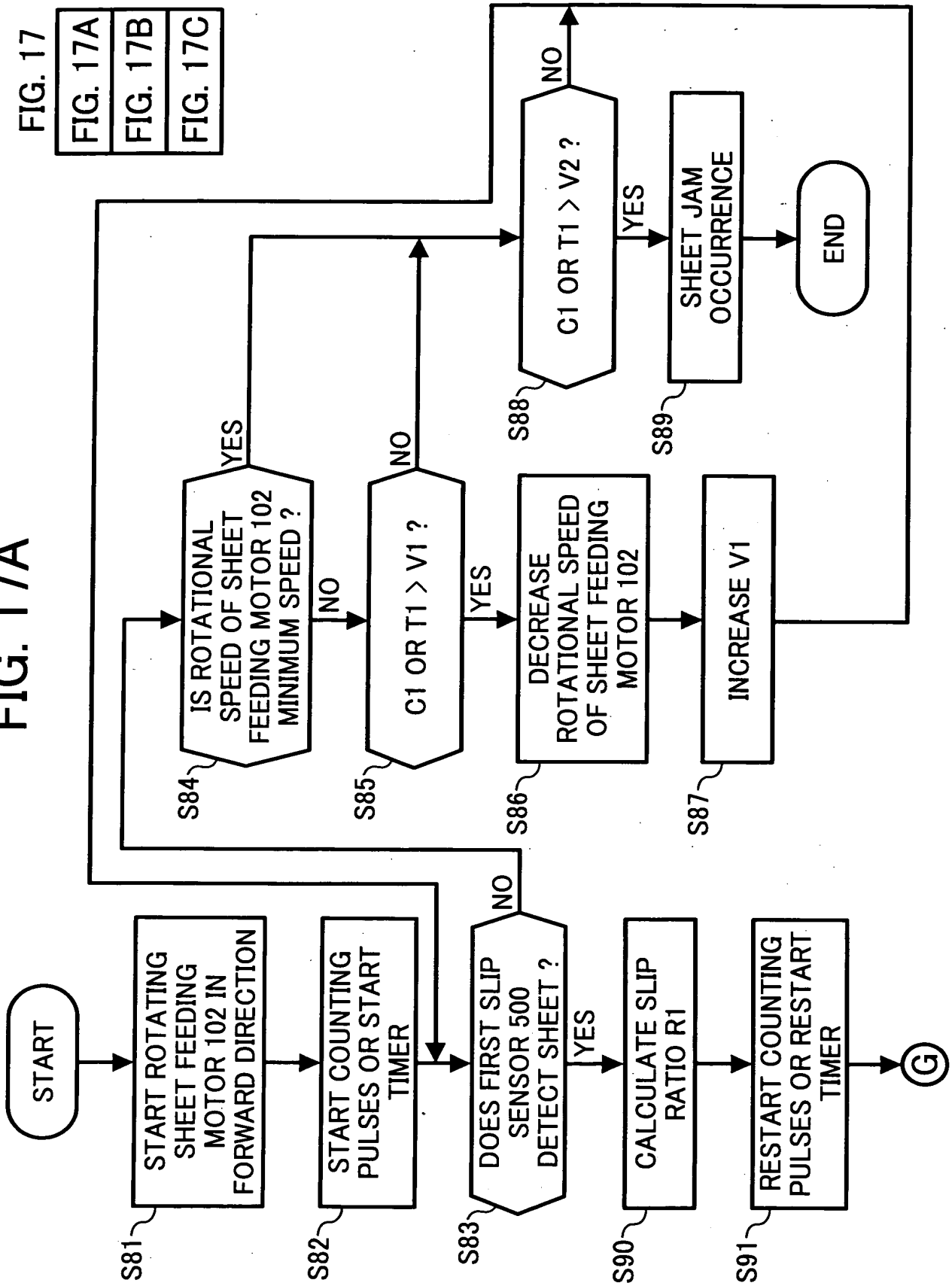


FIG. 17B

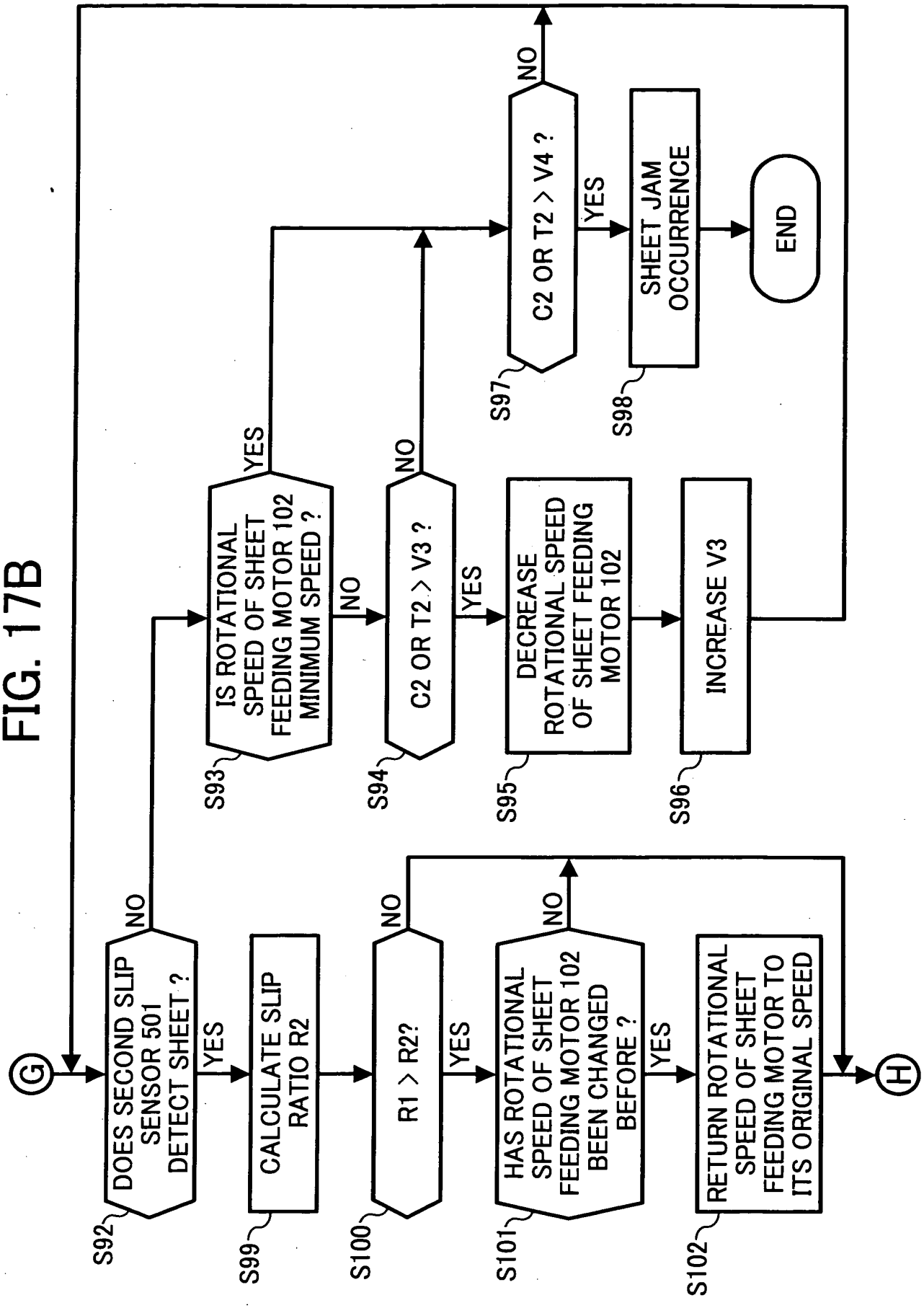

G
DOES SECOND SLIP SENSOR 501 DETECT SHEET ?
S92
NO
YES
CALCULATE SLIP RATIO R2
S99
R1 > R2?
S100
NO
YES
HAS ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102 BEEN CHANGED BEFORE ?
S101
NO
YES
RETURN ROTATIONAL SPEED OF SHEET FEEDING MOTOR TO ITS ORIGINAL SPEED
S102
H
IS ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102 MINIMUM SPEED ?
S93
YES
NO
C2 OR T2 > V3 ?
S94
NO
YES
DECREASE ROTATIONAL SPEED OF SHEET FEEDING MOTOR 102
S95
INCREASE V3
S96
C2 OR T2 > V4 ?
S97
NO
YES
SHEET JAM OCCURRENCE
S98
END

FIG. 17C

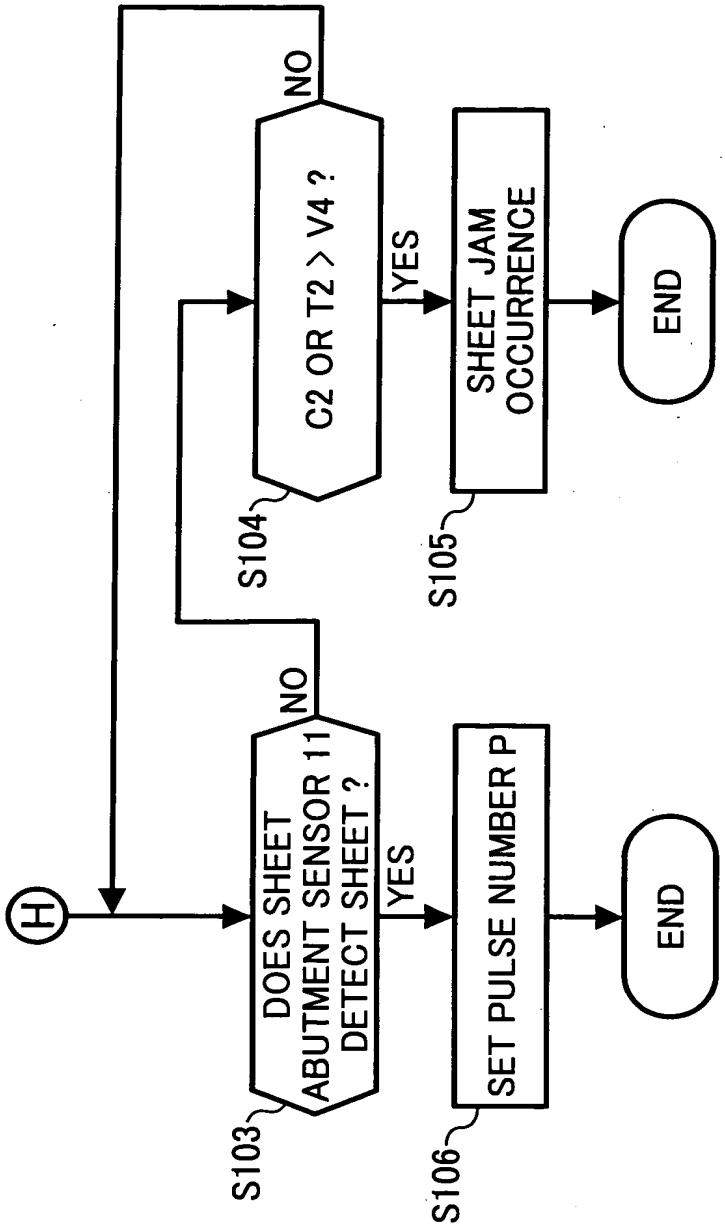

H
DOES SHEET ABUTMENT SENSOR 11 DETECT SHEET ?
S103
NO
YES
SET PULSE NUMBER P
S106
END
C2 OR T2 > V4 ?
S104
NO
YES
SHEET JAM OCCURRENCE
S105
END

FIG. 18A

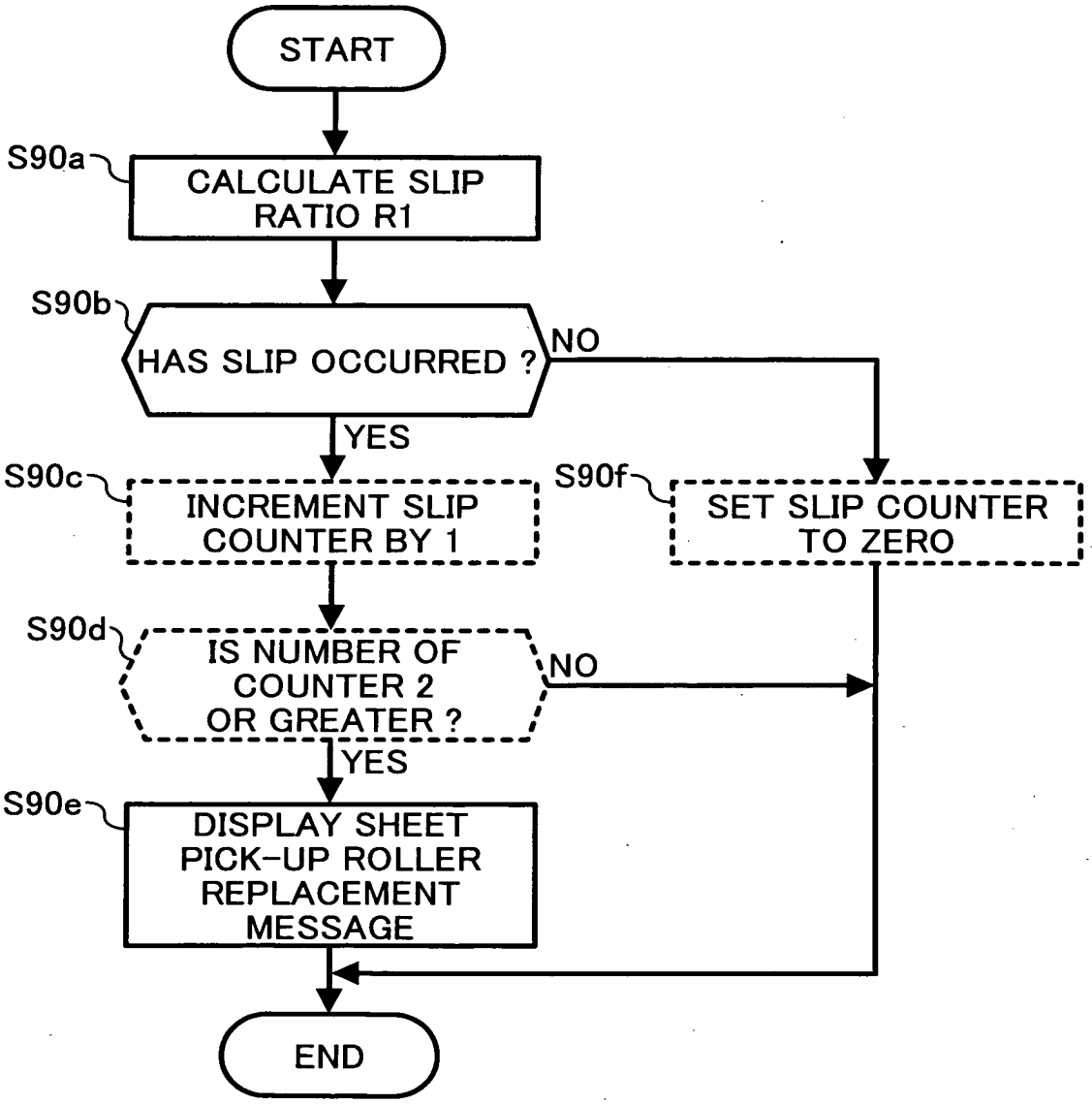

START
S90a
CALCULATE SLIP RATIO R1
S90b
HAS SLIP OCCURRED ?
NO
YES
S90c
INCREMENT SLIP COUNTER BY 1
S90f
SET SLIP COUNTER TO ZERO
S90d
IS NUMBER OF COUNTER 2 OR GREATER ?
NO
YES
S90e
DISPLAY SHEET PICK-UP ROLLER REPLACEMENT MESSAGE
END

FIG. 18B

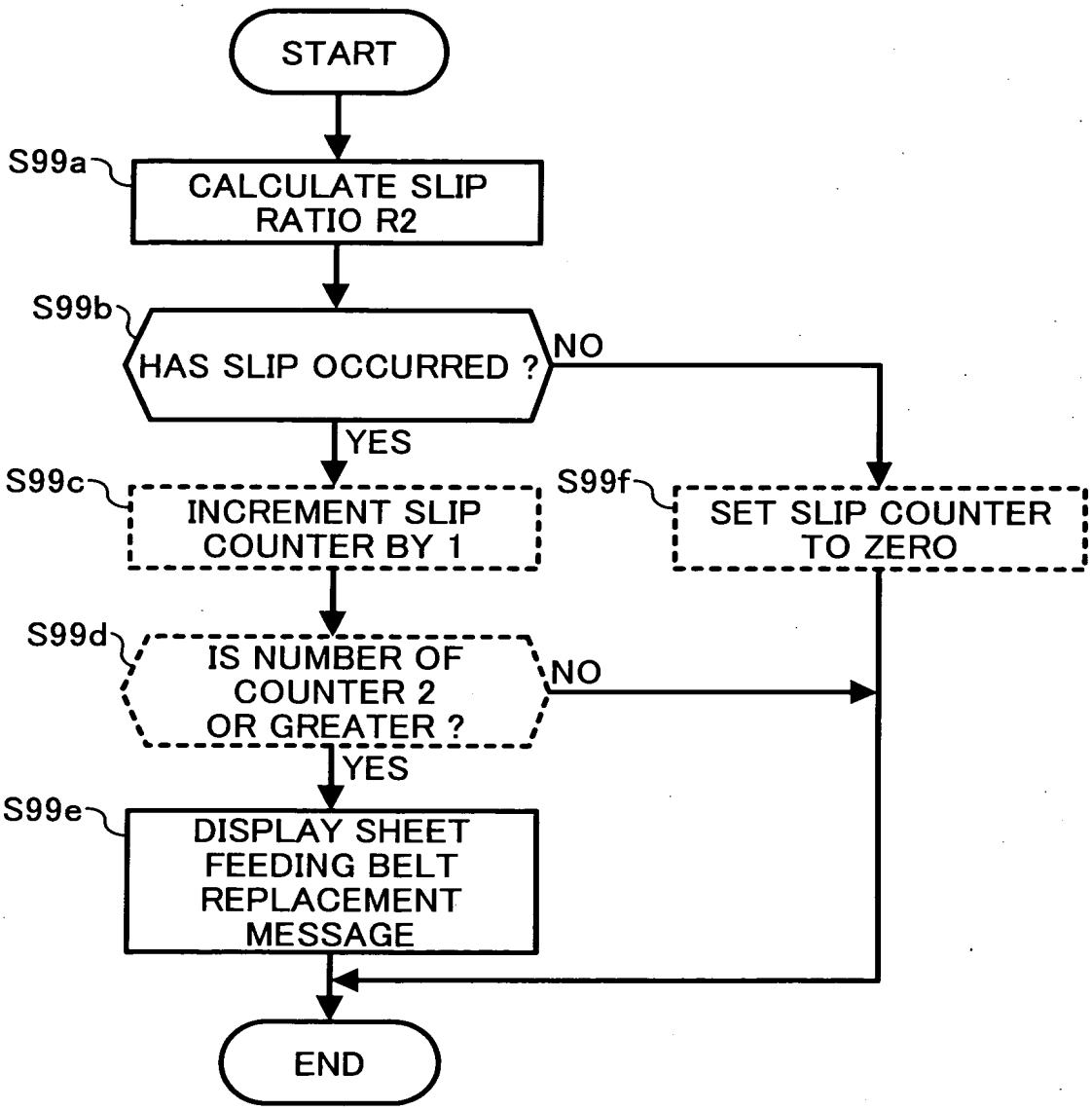
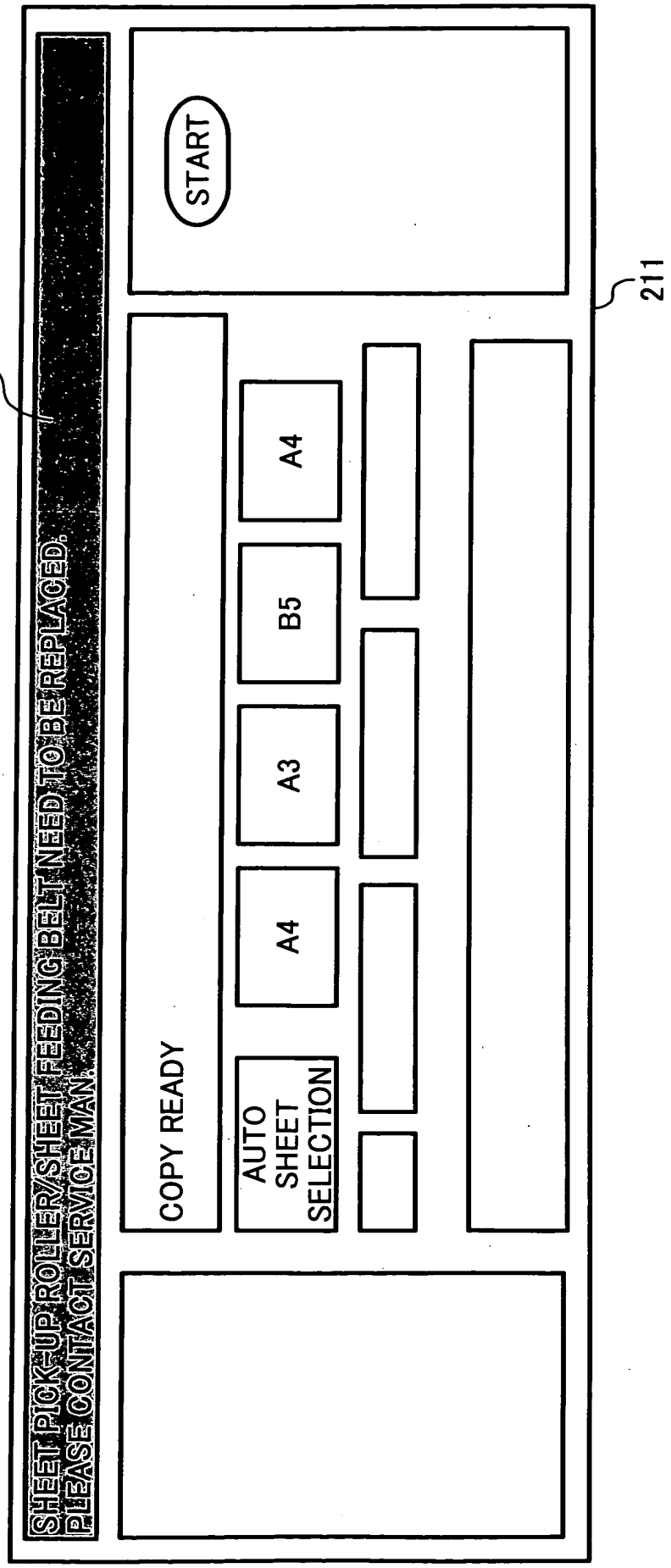

START
S99a
CALCULATE SLIP RATIO R2
S99b
HAS SLIP OCCURRED ?
NO
YES
S99c
INCREMENT SLIP COUNTER BY 1
S99f
SET SLIP COUNTER TO ZERO
S99d
IS NUMBER OF COUNTER 2 OR GREATER ?
NO
YES
S99e
DISPLAY SHEET FEEDING BELT REPLACEMENT MESSAGE
END

FIG. 19


211a
211
SHEET PICK-UP ROLLER/SHEET FEEDING BELT NEED TO BE REPLACED.
PLEASE CONTACT SERVICE MAN.
START
COPY READY
AUTO SHEET SELECTION
A4
A3
B5
A4